Superdeformed and High-Spin Nuclear Structure Data Services

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With the advent of large detector arrays, a wealth of new information about the properties of nuclei at high-spin has become available. Rapid progress in this field has created a demand for up-to-date sources of information. We have published two hardcopy editions of the Table of Superdeformed Nuclear Bands and Fission Isomers[1,2] and a third Internet edition[3] to meet these needs. The Internet version has been published in both HTML and Adobe Acrobat Portable Document Format (PDF) formats. The "SD Book" provides "Table of Isotopes" style summary tables, superdeformed band drawings, and dynamic moment of inertia plots for all nuclei with superdeformed bands or fission isomers.

Links to the Table of Superdeformed Nuclear Bands and Fission Isomers can be found our High-Spin and Nuclear Structure home page at http://ie.lbl.gov/hspin.html on the Internet. Also included on the High-Spin home page are recent references for high-spin and nuclear structure which are updated on the WWW approximately every three months. Nilsson diagrams, links to the large detector array home pages, and other nuclear data are also available on this home page.

Another resource of high-spin interest if the Spontaneous Fission Internet home page at http://ie.lbl.gov/fission.html. This site contains fission product yields from T.R. England and B.F. Rider[4], summary tables of fission product data from ENSDF, and an energy-ordered spontaeous fission γ-ray table.

Isotope Explorer software also provides many utilities useful for high-spin research. This software can automatically retrieve ENSDF data from the Internet of the Table of Isotopes CD-ROM[5] and display band drawings, tables, and moment plots. The program includes a superdeformed band database for rapid retrieval, yrast level and J^{π} filters, band search and calculation capabilities.

Footnotes and References

[1]R.B. Firestone and B. Singh, Table of Superdeformed Nuclear Bands and Fission Isomers, LBL-35916 (1994).

[2]B. Singh, R.B. Firestone and S.Y.F. Chu, Table of Superdeformed Nuclear Bands and Fission Isomers, Second Edition, Nucl. Data Sheets 78, 1(1996).

[3]B. Singh, R.B. Firestone and S.Y.F. Chu, Table of Superdeformed Nuclear Bands and Fission Isomers, Internet Edition, June, 1997.

[4]T.R. England and B.F. Rider, Los Alamos National Laboratory, LA-UR-94-3106; ENDF-349 (1993).

[5]R.B. Firestone, V.S. Shirley, C.M. Baglin, S.Y.F. Chu, and J. Zipkin, 8th edition of the Table of Isotopes, John Wiley & Sons, Inc. (1996).

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